Most modern cities are creating Barrier Free environments or Universal Design in order to meet the needs of people of all ages, sizes and abilities. Universal Design is the design of products and environments to be usable by all people to the greatest extent possible, without the need for adaptation or specialised design. Dr Hafiz says, "As life expectancy rises and modern medical science increases survival rate of people with disabilities (arising out of illness, significant injuries, birth defects, ages and/or status in life) – universal design offers improved living conditions and better quality of life to these people as well as others."








Every building should be easily accessible to the physically challenged.

## Singapore: a model city for its barrier-free design

If you are at a Mass Rapid Transit station in Singapore, chances are you will see someone on an electric wheelchair coming down a ramp and before you know it, he has zoomed past you into the nearby supermarket. You will be impressed by the way people with restricted physical conditions can move about with incredible speed in their powered wheelchairs. The ticketing machines have buttons low enough for wheelchair passengers to reach. Entrance lanes for them are wider and clearly marked with a wheelchair logo. The touch-screen system is a great help as users do not have to fumble about to get a slim card into a slot. Built into the highly polished floor inside the building, there are stainless steel guiding blocks that lead all the way to an elevator, clearly marked for the disabled.



Without accessible transportation, people with disabilities are more likely to be excluded from services and social contact.

Sara Wallbeck, an architect from Wisconsin, USA worked for a multinational company in Singapore for six years. Her husband Jodie has a broken hip and has to use a wheelchair to get around. Here are Sara's observations about some disabled-friendly features of Singapore:

There are low glass protective barriers along the entire length of the arrival platform of trains to prevent wheelchairs from accidentally falling onto tracks. The barriers are synchronised with the trains' doors and open together.

The gap between the train and the platform is hardly noticeable, providing smooth access for wheelchairs to get into the train. Inside, there are clear signs of all the train stops in green lighted circles, while the current stop is in red. Deaf passengers have LED displays with rolling messages that constantly keep them informed of audio announcements. Which door will open when the train arrives at each destination is clearly indicated with blinking lights. Blind passengers are guided by clear announcements.

Seat rows are designed to accommodate wheelchairs.

Toilets in many shopping complexes have sliding doors with soft-touch electronic buttons at low height.